

CURRICULUM VITA

MADISON SANKOVITZ, PHD

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**EDUCATION**

<b>Ph.D. Entomology</b> University of California Riverside Dissertation: <i>An interdisciplinary approach to understanding environmental dynamics of soil ecosystem engineering ants</i> Advisor: Dr. Jessica Purcell	2022
<b>B.A. Ecology and Evolutionary Biology</b> University of Colorado Boulder Honors thesis: <i>Effects of the mound nests of the ant Formica podzolica on soil moisture, nitrogen, and vegetation</i> Advisor: Dr. Michael Breed <i>Magna Cum Laude</i>	2017
Study abroad: School for International Training - Cairns, Australia World Learning: Rainforest, Reef, and Cultural Ecology.	2016
University of Tasmania - Hobart Institute for Marine and Antarctic Studies – independent study.	2016

**EMPLOYMENT**

University of Colorado Boulder, <i>Postdoctoral Associate</i> ▪ Boulder, Colorado <input type="checkbox"/> Collect data concerning the distribution, spread, and impact of bee symbionts in Asia <input type="checkbox"/> Employ morphometric, genomic, and geographic information systems techniques to analyze data <input type="checkbox"/> Collaborate with international scientists to communicate information regarding honey bees and their symbionts	2022-present
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**CERTIFICATIONS**

Graduate Certificate in Science Policy ▪ University of California Riverside	2020
Chancellor's Graduate Certificate in Diversity, Equity, and Inclusion ▪ University of California Riverside	2019

**SELECTED HONORS AND AWARDS**

National Institute of Food and Agriculture Predoctoral Fellow ▪ <b>United States Department of Agriculture</b>	2020-2022
UCR NRT Integrated Computational Entomology Fellow ▪ <b>National Science Foundation</b>	2018-2021
1st Place, P-IE Ecology Grad Student 10-Minute Paper Competition ▪ <b>Entomological Society of America</b>	2019
1st Place, Student Seminar Day Poster Competition ▪ <b>Univ. of California Riverside Entomology Dept.</b>	2019
Graduate Research Fellowship Program Honorable Mention ▪ <b>National Science Foundation</b>	2018
Chancellor's Distinguished Fellowship ▪ <b>University of California Riverside</b>	2017-2018
Esteemed Scholars Award ▪ <b>University of Colorado Boulder</b>	2013-2017

## JOURNAL PUBLICATIONS

### Published

- [J9] Argueta-Guzmán, M., West, M., Gaiarsa, M. P., Allen, C. W., Cecala, J. M., Gedlinske, L., McFrederick, Q. S., Murillo, A. C., **Sankovitz, M.**, & Rankin, E. E. W. (2023). Words matter: how ecologists discuss managed and non-managed bees and birds. *Scientometrics*, 1-20.
- [J8] **Sankovitz, M.**, Loope, K., Wilson Rankin, E., & Purcell, J. Unequal reproduction early in a social transition: insights from invasive wasps. *The American Naturalist*, 201(2), 000-000.
- [J7] **Sankovitz, M.** & Purcell, J. (2022). Ant nests differentially affect soil chemistry across elevational gradients. *Insectes Sociaux*, 69(2), 293-298.
- [J6] McGuire, D., **Sankovitz, M.**, & Purcell, J. (2022). A novel distribution of supergene genotypes is present in the socially polymorphic ant *Formica neoclara*. *BMC ecology and evolution*, 22(1), 1-12.
- [J5] **Sankovitz, M.**, & Purcell, J. (2021). Ant nest architecture is shaped by local adaptation and plastic response to temperature. *Scientific reports*, 11(1), 1-10.
- [J4] Scarparo, G., **Sankovitz, M.**, Loope, K. J., Wilson-Rankin, E., & Purcell, J. (2021). Early queen joining and long-term queen associations in polygyne colonies of an invasive wasp revealed by longitudinal genetic analysis. *Evolutionary Applications*, 14(12), 2901-2914.
- [J3] de la Mora, A.\*, **Sankovitz, M.\***, & Purcell, J. (2020). Ants (Hymenoptera: Formicidae) as host and intruder: recent advances and future directions in the study of exploitative strategies. *Myrmecological News*, 30.
- [J2] **Sankovitz, M. A.**, Breed, M. D., & McCreery, H. F. (2019). Effects of *Formica podzolica* ant colonies on soil moisture, nitrogen, and plant communities near nests. *Ecological Entomology*, 44(1), 71-80.
- [J1] Hale, A., Bougie, T., Henderson, E., **Sankovitz, M.**, West, M., & Purcell, J. (2018). Notes on hunting behavior of the spider *Euryopis californica* Banks, 1904 (Araneae: Theridiidae), a novel predator of *Veromessor pergandei* (Mayr, 1886) harvester ants (Hymenoptera: Formicidae). *The Pan-Pacific Entomologist*, 94(3), 141-146.

\*These authors contributed equally to this work

### In review

- [R1] **Sankovitz, M.**, Rivera, M. J., Manjarress, T. M., & Mathis, K. M. The role of ant-mediated biological interactions in agroecosystems.

## RESEARCH GRANTS

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|---|-----------|
| Environ. dynamics of ecosystem engineering ants and their modifications of soil structure • \$70,344<br>USDA National Institute of Food and Agriculture Predoctoral Fellowship        | 2020-2022 |
| Environmental influences on bioturbation and nest architecture of montane ants • \$4,518<br>Boulder County Parks & Open Space, Small Grants Program                                   | 2019      |
| Effects of the ant <i>Formica Podzolica</i> on soil moisture, nitrogen, and plant communities • \$1,500<br>University of Colorado Boulder, Undergraduate Research Opportunity Program | 2016-2017 |

## PRESENTATIONS & INVITED LECTURES

- "Emerging mite threat to honey bees: managing the latest pest challenge in Asia". *Entomology 2023*; National Harbor, MD, 7 November 2023. Oral presentation.
- "Pollinator pandemic: tracking Tropi and hornets". *Invited seminar at University of Colorado Denver*; CO, 29 September 2023. Oral presentation.
- "Climatic adaptation of the widespread ant species *Formica podzolica*." *Entomology 2021*; Denver, CO, 1 November 2021. Oral presentation.
- "Nest architecture response to temperature in *Formica* ants." *Entomology 2020*; Virtual, 11-25 November 2020. Invited oral presentation.
- "Nest architecture response to temperature in *Formica* ants." *Southern California Animal Behaviour Symposium*; San Diego, CA, 8 February 2020. Oral presentation.
- "Altitudinal patterns of *Formica* ant nest soil properties in California mountains." *Entomology 2019*; St. Louis, MO, 18 November 2019. Oral presentation.
- "Reproductive partitioning in polygynous, perennial *Vespula pensylvanica* colonies." *2018 ESA, ESC, and ESBC Joint Annual Meeting*; Vancouver, Canada, 12 November 2018. Oral presentation.
- "Reproductive partitioning in polygynous, perennial *Vespula pensylvanica* colonies." *IUSSI 2018*; Guarujá, Brazil, 8 August 2018. Oral presentation.
- "Cooperation in insect societies." Moreno Valley College BIO-12: Introduction to Organismal and Population Biology, Invited Guest Lecture. Quarterly oral presentation.
- Effects of the ant, Formica podzolica, on soil moisture, nitrogen, and plant communities.* Poster presented at the Southern California Animal Behavior Meeting, Los Angeles, CA (2018).
- Effects of the mound nests of the ant, Formica podzolica, on the surrounding vegetation.* Poster presented at the International Union for the Study of Social Insects colloquium - North American Section, Orlando, FL (2016).

## TEACHING EXPERIENCE

- University of California Riverside ▪ Department of Entomology 2019  
ENTM 060W: Scicomm: Exploring Effective Communication Methods in the Life Sciences, Teaching Assistant
- University of Colorado Boulder ▪ Department of Ecology and Evolutionary Biology 2016-2017  
EBIO 3080: Evolutionary Biology, Learning Assistant
- University of Colorado Boulder ▪ Department of Ecology and Evolutionary Biology 2016  
EBIO 3240: Animal Behavior, Undergraduate Teaching Assistant

## MENTORSHIP EXPERIENCE

- Research mentorship of graduate students 2021  
Darin McGuire
- University of California Riverside ▪ Summer RISE Research Program 2020-2021  
Mentor for undergraduate students: Jay Chang, Stephanie Loyola, Shukerrah Palmer, Zaara Said, Angela Soliman
- Research mentorship of undergraduate students 2019-2020  
Liz Gonzalez, Darin McGuire, Christian Ortiz, Gary Wu

## SCIENCE COMMUNICATION/OUTREACH

- University of California Agriculture and Natural Resources, *Digital Communications Assistant* 2021-2022
- Develop digital communication to support the nine Research and Extension Centers (RECs)
  - Conduct social media campaigns targeting scientists, graduate students, agriculture industry leaders, etc.
  - Promote site-specific REC events and programs, such as field days and the Farm Smart program
- SciComm @ UCR, *President, Podcast Committee Chair* 2018-2021
- Founded and led University of California Riverside's inaugural science communication student organization
  - Organized multiple science communication workshops and speaking events, including TEDx UCR 2020
  - Hosted the podcast *Beyond the Bench*
- Science for Citrus Health, *Team Member* 2019-2021
- Managed social media accounts for this outreach group focused on huanglongbing (HLB) research
  - Hosted *Beyond the Bench* podcast episodes featuring citrus scientists
  - Developed educational materials to explain research approaches addressing HLB
- ComSciCon, *Ambassador* 2018-2021
- Contributed content for ComSciCon's web presence
  - Organized ComSciCon-LA in 2021
  - Organized ComSciCon Entomology in 2019
- Insectes Sociaux, *Social Media Editor* 2018-2020
- Interviewed authors and published blog posts twice-monthly
  - Managed social media accounts
- Science Talk, *Marketing and Communications committee member* 2019-2020
- Managed social media accounts for this science communication non-profit organization
  - Aided in organizing the Science Talk '20 conference
- Entomology Graduate Student Association, *Fundraising Committee Member* 2018-2019
- Planed fundraising events for the UCR Entomology Graduate Student Association, including Riverside Insect Fair
  - Helped Riverside Insect Fair attract 14,000 visitors in 2018
- Riverside STEM Academy, *Science Olympiad Mentor* 2018-2019
- Tutored students in genetics and cellular biology for Science Olympiad
- University of California Riverside, *Entomology Outreach Program Graduate Student Coordinator* 2018
- Coordinated, resourced, and participated in outreach events at Riverside elementary schools and organizations

## SERVICE TO PROFESSION

- Society Leadership
- Entomological Society of America: Science Policy Committee member 2023
- External Peer Reviewer
- Biological Reviews, Biology Letters, Biotropica, Molecular Ecology, Sociobiology
- Symposium Organizer
- Entomological Society of America Pacific Branch 2020 Meeting: "Not all forest entomology is 'boring': a look into the diversity of forest entomology research" \*Canceled due to COVID-19

## OTHER RELEVANT EXPERIENCE

- Engineers in Action, *Bridge Program Ambassador and Marketing Committee Chair* 2017-2019
- Lead marketing for the EIA Bridge Program
  - Organized the 2018 EIA Bridge Builder Conference
  - Built and regularly updated the website; conducted and collected media for the year-end fundraising campaign

Bridges to Prosperity, *University Program Ambassador, Bridge Builder, Outreach Coordinator* 2015-2018

- Program Ambassador for the University Program
- Bridge Builder, Outreach Coordinator, and Safety Manager for University of Colorado Boulder chapter
- Led fundraising of \$118,000 and built the program's inaugural footbridge (73 m span) in Swaziland

University of Colorado Boulder, *REU Intern, Research Assistant* 2014-2016

- National Science Foundation Research Experiences for Undergraduates Intern at Mountain Research Station
- Research Assistant in Dr. Kathryn Arehart's lab in the Department of Speech, Language, and Hearing Sciences
- Discovery Learning Apprentice under Dr. Lupita Montoya in the Department of Environmental Engineering